

Technical Data Sheet



Icorene 1490 BLK 9001

Linear Medium Density Polyethylene
LyondellBasell Industries
Rotomolding

Product Description

ICORENE® 1490 BLK 9001 is a black UV stabilised hexene linear medium density polyethylene powder. It has been developed for use as a powder in rotational moulding.

This grade is a very fast processing material but also has extremely high levels of ESCR and a very wide processing window for -40C ARM impact strength.

Recommended PIAT can be as low as 130C to 150C depending on the position of the thermocouple.

It is suitable for use in many different applications due to its high ESCR. But it is especially good for reducing oven cycle time by up to 30%. This is done using low PIATs and can result in significantly lower energy usage heating the oven. This effect is multiplied in thicker wall section.

It is easy to process with a low shrinkage tendency. Faster melting can help to distribute the material more evenly across the mould.

ICORENE® 1490 BLK 9001 is not intended for use in medical and pharmaceutical applications.

General

Material Status	• Commercial: Active
Availability	• Europe
Additive	• Antioxidant • UV Stabilizer
Features	• General Purpose • Good Processability • Good Flow • Good Stiffness • UV Resistant • Good Moldability • Good Toughness
Uses	• Agricultural Applications • General Purpose • Tanks
Appearance	• Black
Forms	• Powder
Processing Method	• Rotational Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density ¹ (73°F (23°C))	0.936 g/cm ³	0.936 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	12 g/10 min	12 g/10 min	ISO 1133
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693
Condition B, 122°F (50°C), 10% Igepal, Rotational Molded, F50	> 500 hr	> 500 hr	
Condition B, 122°F (50°C), 100% Igepal, Rotational Molded, F50	> 1000 hr	> 1000 hr	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ² (73°F (23°C))	109000 psi	750 MPa	ISO 527-2/1B
Tensile Strength (Yield)	2610 psi	18.0 MPa	ISO 527-2/1B
Tensile Strain (Break, 73°F (23°C))	> 650 %	> 650 %	ISO 527-2/1B
Flexural Modulus ³ (73°F (23°C))	116000 psi	800 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength ⁴ (73°F (23°C))	6.7 ft·lb/in ²	14 kJ/m ²	ISO 179/1eA
Tensile Impact Strength ⁵ (-22°F (-30°C))	34.7 ft·lb/in ²	73.0 kJ/m ²	ISO 8256
Impact Strength ⁶			ARM
-40°F (-40°C), 0.126 in (3.20 mm), Rotational Molded	> 63 ft·lb	> 85 J	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ⁷			ISO 75-2/B
66 psi (0.45 MPa), Unannealed	144 °F	62.0 °C	
Vicat Softening Temperature	232 °F	111 °C	ISO 306/A
Melting Temperature (DSC)	261 °F	127 °C	ISO 3146

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Notes

- ¹ Rotomoulded density 0.938 g/cc
- ² All Tensile data from 4mm rotomoulded black specimens PIAT 130-190C
- ³ Rotomoulded black specimen
- ⁴ Rotomoulded black 4mm
- ⁵ Notched
- ⁶ Rotomoulded value for PIAT 130C to 190C
- ⁷ Rotomoulded Natural 4mm

Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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